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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/539,286
Filing Date: June 16, 2005
Appellant(s): STACEY ET AL.

Stanley C. Spooner
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 08/24/2009 appealing from the Office action mailed 03/24/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claim 17 under 35 USC §102 as being anticipated by Charbonnet (US Patent 5,209,881) is withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,209,881	Charbonnet	5-1993
6,132,084	Whipple	10-2000
4,463,437	Schenck	7-1984
5,345,397	Handle	9-1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

Claims 8, 13, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Charbonnet (PN 5209881).

- a. With regards to claim 8, Charbonnet teaches a method for curing composite articles in which the article is placed in a temperature controlled oven (vessel) and cures the material while monitoring the temperature of the oven with at least one infrared pyrometer sensor (abstract). Charbonnet teaches that the pyrometer is at a distance of twelve to eighteen inches from the article (col 3 ln 20-24, the examiner is interpreting the distance away from the article to satisfy the claim limitation of being remote from the article.) Charbonnet teaches that sensors may be connected to meter or gauges and their individual outputs correlated to panel temperature (col 4 ln 33-35, due to Charbonnet using a

moving oven this corresponds to having a constant curing temperature at certain points in the oven rather than a constant temperature throughout the oven.)

Charbonnet teaches that it is desirable to keep the gelation point in a specific spot within the oven (col 3 In 54-56, given this it would follow that the gelation point is a specific temperature which means that Charbonnet is controlling the oven to have a constant cure temperature.) Charbonnet teaches adjusting the oven temperature in response to sensor readings (abstract).

b. With regards to claim 13, Charbonnet teaches a method for curing composite articles in which the article is placed in a temperature controlled oven (vessel) and cures the material while monitoring the temperature of the oven with at least one infrared pyrometer sensor (abstract). Charbonnet teaches that the pyrometer is at a distance of twelve to eighteen inches from the article (col 3 In 20-24, the examiner is interpreting the distance away from the article to satisfy the claim limitation of being remote from the article.) Charbonnet teaches that sensors may be connected to meter or gauges and their individual outputs correlated to panel temperature (col 4 In 33-35, due to Charbonnet using a moving oven this corresponds to having a constant curing temperature at certain points in the oven rather than a constant temperature throughout the oven.) Charbonnet teaches that it is desirable to keep the gelation point in a specific spot within the oven (col 3 In 54-56, given this it would follow that the gelation point is a specific temperature which means that Charbonnet is controlling the

oven to have a constant cure temperature.) Charbonnet teaches adjusting the oven temperature in response to sensor readings (abstract).

c. With regards to claim 21, Charbonnet teaches monitoring the temperature of the material (abstract, the limitation of "to determine the location and existence of voids during curing" is not given patentable weight as this limitation provides an intended purpose for a step rather than a patentable step in the process and Charbonnet teaches performing the step of monitoring the temperature of the material.)

Claim Rejections - 35 USC § 103

Claims 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charbonnet (PN 5209881) as applied to claim 13 above, and further in view of Whipple et al. (PN 6132084).

a. With regards to claim 14, Charbonnet as applied to claim 13 above teaches a method for curing a composite material by placing the material in an oven that is temperature controlled by infrared devices to maintain consistency over the oven to cure the material. Charbonnet does not teach that the infrared device is located outside of the vessel.

b. Whipple teaches a infrared non-contact self calibrating measurement device (abstract). Whipple teaches that the invention provides for non-contact temperature measurements of objects being disposed in a chamber of an appliance with means of transmitted infrared radiation in a scan pattern and detection for accurate temperature measurements thereof and makes use of

already present components to reduce complexity (col 12 ln 38-54). Whipple teaches that the device is located outside of the chamber of the oven (col 2 ln 32-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the scanning infrared radiation system outside of the vessel as taught by Whipple in the process taught by Charbonnet, because the Whipple system provides improved responsive non-contact measurement (col 2 ln 50-60) while scanning across all areas of the chamber (col 5 ln 46-50).

c. With regards to claim 17, Charbonnet as applied to claim 13 above teaches a method for curing a composite material by placing the material in an oven that is temperature controlled by infrared devices to maintain consistency over the oven to cure the material. Charbonnet does not teach that the temperature across the whole of the material is measured.

d. Whipple teaches a infrared non-contact self calibrating measurement device (abstract). Whipple teaches that the invention provides for non-contact temperature measurements of objects being disposed in a chamber of an appliance with means of transmitted infrared radiation in a scan pattern and detection for accurate temperature measurements thereof and makes use of already present components to reduce complexity (col 12 ln 38-54). Whipple teaches that the device is located outside of the chamber of the oven (col 2 ln 32-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the scanning infrared radiation system outside of the vessel as taught by Whipple in the process taught by Charbonnet, because the

Whipple system provides improved responsive non-contact measurement (col 2 In 50-60) while scanning across all areas of the chamber (col 5 In 46-50). Claims 16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charbonnet as applied to claim 13 above, and further in view of Schenck et al. (PN 4463437)

- a. With regards to claim 16, Charbonnet as applied to claim 13 above teaches a method for curing a composite material by placing the material in an oven that is temperature controlled by infrared devices to maintain consistency over the oven to cure the material. Charbonnet does not teach that the infrared device is a camera.
- b. Schenck teaches the use of an infrared camera system to better enable surface temperature measurements in hot processes (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the infrared camera system of Schenck as the infrared sensor of Charbonnet, because Schenck teaches that the camera system provides automatic acquisition, validation, and preprocessing of thermal images from the camera, defines and extracts key features of thermal images, reports, retrieves, and archives data.
- c. With regards to claims 18, while Charbonnet in view of Schenck does not teach that the camera is movable it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the camera of Charbonnet in view of Schenck movable as "that a claimed device is portable or

movable is not sufficient by itself to patentably distinguish over an otherwise old device unless there are new and unexpected results.” In re Lindberg, 194 F.2d 732, 93 USPQ 23 (CCPA 1952) MPEP 2144.04.

d. With regards to claim 19, Charbonnet teaches monitoring the temperature at a critical point (col 3 ln 32-34, a critical point being a specific point) as well as several different points (col 4 ln 6-26).

Claims 8, 13, 14, 15, 17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handel et al. (PN 5345397) in view of Whipple et al. (PN 6132084).

a. With regards to claim 8, Handel teaches a method for curing fiber reinforced composite material by placing the material in a temperature controlled vessel and curing the material (abstract). Handel does not teach that the control system comprises an infrared device remote from the material.

b. Whipple teaches a infrared non-contact self calibrating measurement device (abstract). Whipple teaches that the invention provides for non-contact temperature measurements of objects being disposed in a chamber of an appliance with means of transmitted infrared radiation in a scan pattern and detection for accurate temperature measurements thereof and makes use of already present components to reduce complexity (col 12 ln 38-54). Whipple teaches that the device is located outside of the chamber of the oven (col 2 ln 32-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the scanning infrared radiation system outside of the vessel as taught by Whipple in the process taught by Handel, because the

Whipple system provides improved responsive non-contact measurement (col 2 In 50-60) while scanning across all areas of the chamber (col 5 In 46-50).

c. With regards to claim 13, Handel teaches a method for curing fiber reinforced composite material by placing the material in a temperature controlled vessel and curing the material at a constant temperature (abstract). Handel does not teach that the control system comprises an infrared device remote from the material.

d. Whipple teaches a infrared non-contact self calibrating measurement device (abstract). Whipple teaches that the invention provides for non-contact temperature measurements of objects being disposed in a chamber of an appliance with means of transmitted infrared radiation in a scan pattern and detection for accurate temperature measurements thereof and makes use of already present components to reduce complexity (col 12 In 38-54). Whipple teaches that the device is located outside of the chamber of the oven (col 2 In 32-33). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the scanning infrared radiation system outside of the vessel as taught by Whipple in the process taught by Handel, because the Whipple system provides improved responsive non-contact measurement (col 2 In 50-60) while scanning across all areas of the chamber (col 5 In 46-50).

e. With regards to claim 14, Whipple teaches that the device is located outside of the chamber of the oven (col 2 In 32-33).

- f. With regards to claim 15, Handel teaches that the vessel is an autoclave (abstract).
- g. With regards to claim 17, Whipple teaches scanning across all areas of the chamber (col 5 ln 46-50, by scanning across all areas of the chamber the entire whole of the material is monitored.)
- h. With regards to claim 20, Handel teaches monitoring the temperature of the vessel during curing as well as the time period of heating prior to the curing of the resin as seen in Fig. 2 in which the resin cures at a desired constant temperature of 350.
- i. With regards to claim 21, Handel teaches monitoring the temperature of the material (abstract, the limitation of "to determine the location and existence of voids during curing" is not given patentable weight as this limitation provides an intended purpose for a step rather than a patentable step in the process and Handel teaches performing the step of monitoring the temperature of the material.)

Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handel et al. (PN 5345397) in view of Whipple et al. (PN 6132084) as applied to claim 13 above, and further in view of Schenck et al. (PN 4463437).

- a. With regards to claim 16, Handel in view of Whipple as applied to claim 13 above teaches a method for curing a composite material by placing the material in an autoclave that is temperature controlled by infrared devices to maintain

temperature in the autoclave to cure the material. Handel in view of Whipple does not teach that the infrared device is a camera.

b. Schenck teaches the use of an infrared camera system to better enable surface temperature measurements in hot processes (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the infrared camera system of Schenck as the infrared sensor of Handel in view of Whipple, because Schenck teaches that the camera system provides automatic acquisition, validation, and preprocessing of thermal images from the camera, defines and extracts key features of thermal images, reports, retrieves, and archives data.

c. With regards to claims 18, while Handel in view of Whipple and Schenck does not teach that the camera is movable it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the camera of Handel in view of Whipple and Schenck movable as "that a claimed device is portable or **movable** is not sufficient by itself to patentably distinguish over an otherwise old device unless there are new and unexpected results." In re Lindberg, 194 F.2d 732, 93 USPQ 23 (CCPA 1952) MPEP 2144.04.

(10) Response to Argument

A. The Examiner fails to provide any rationale for the rejection of claim 17 under 35 USC §102

With regards to this argument the grounds of rejection was withdrawn as claim 17 was mistakenly included in the rejection heading and was further rejected under 35 USC §103.

B. The Examiner errs in not giving the method step of dependent claim 21 "patentable weight"

With regards to this argument the method step of claim 21, "monitoring the temperature of the material" was considered and rejected as this step is present in independent claim 13 upon which claim 21 depends. Not given patentable weight was the recitation of the intended use of the method step "to determine the location and existence of voids during curing". The language used in the claim raises a question as to the limiting effects of the claim. The method step of monitoring the temperature of the material was positively recited in Charbonnet.

C. The Examiner misapprehends the teachings set out in the prior art references.

1. Independent claims 8 and 13 require "adjusting the temperature of the vessel to maintain a constant curing temperature"

With regards to this argument, Charbonnet teaches maintaining a gelation point in a specific spot within the oven at col 3 ln 54-56. Charbonnet teaches that the gelation point is an exothermic reaction taking place at a specific point in the curing process (col 3 ln 32-35). While Charbonnet does discuss adjusting the travel rate of the panel through the vessel, Charbonnet also teaches alternatively adjusting oven temperature in the last two lines of the abstract. Therefor, Charbonnet teaches changing the oven

temperature to maintain the first curing stage at a desired point in the oven which is caused by having a specific temperature at a desired point in the oven. The argument that Charbonnet teaches away from changing the temperature of the oven is invalid in that Charbonnet explicitly states that the oven temperature may be changed as an alternative to line speed as stated in the abstract.

2. The Examiner ignores the method step limitations of claim 21.

With regards to this argument, as noted above, the method step of claim 21, "monitoring the temperature of the material" was considered and rejected as this step is present in independent claim 13 upon which claim 21 depends. Not given patentable weight was the recitation of the intended use of the method step "to determine the location and existence of voids during curing". The language used in the claim raises a question as to the limiting effects of the claim. The method step of monitoring the temperature of the material was positively recited in Charbonnet.

D. The Examiner fails to substantiate his rejection of claims 8, 13, 17, and 21 under 35 USC §102

With regards to this argument, the argument is based on Charbonnet not teaching the recited "to maintain a constant curing temperature." Charbonnet teaches changing the oven temperature to maintain the first curing stage at a desired point in the oven which is caused by having a specific temperature at a desired point in the oven as discussed above.

E. The Examiner fails to set out a prima facie case of obviousness with respect to claims 14 and 17 over the Charbonnet/Whipple combination.

With regards to this argument, Whipple is not relied on to teach "adjusting the temperature of the vessel to maintain a constant curing temperature", which is not admitted to be missing from the Charbonnet reference, but rather for location of an infrared device outside of a vessel that contains an object to be monitored. Whipple provides for an improved non-contact measurement device using infrared radiation that allows an infrared scanner to measure all areas of the chamber (col 2 In 50-60, col 5 In 46-50) advantageously used in the infrared detection system of Charbonnet. Thus the lack of teaching in Whipple of the changing of the vessel to effect cure temperature is not relevant to Whipple's teachings and purpose in the rejection of claims 14 and 17.

F. The Examiner fails to set out a prima facie case of obviousness with respect to claims 16, 18, and 19 over the Charbonnet/Schenck combination

With regards to this argument, Charbonnet's teaching of a constant cure temperature has been discussed above. The combination of Charbonnet and Schenck is based upon the improved and advantageous infrared monitor system of Schenck in which the camera system provides automatic acquisition, validation, and preprocessing of thermal images from the camera, defines and extracts key features of thermal images, reports, retrieves, and archives data. Schenck and Charbonnet are related in the infrared monitor art. With regards to the Gettysburg Address, the examiner believes this issue deals more with copyright law than patentability of a useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. In the event that applicant believes this to be untrue, the examiner is not prepared to make

any declarations on obviousness of the Gettysburg Address as this was a search field not considered in the present invention.

G. The Examiner fails to set out a prima facie case of obviousness with respect to claims 8, 13, 14, 15, 17, 20 and 21 over Handel in view of Whipple

With regards to this argument, Handel teaches gathering information of the material being cured within including the temperature of the material using thermocouples that must be used in portions of the article that are to be trimmed or cut (col 5 ln 34-48). Whipple provides for an improved non-contact measurement of the temperature of the material within the vessel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the improved infrared measurement system of Whipple to monitor the temperature of the material in Handel as it prevents damage to the article from insertion of the thermocouples and still provides a monitoring of the entire article's surface temperature.

H. The Examiner fails to set out a prima facie case of obviousness with respect to claims 16 and 18 over Handel in view of Whipple and further in view of Schenck

With regards to this argument, this argument is based upon the arguments of independent claim 13 discussed above. The argument that the references if combined do not teach the steps of claims 16 and 18 is not persuasive in view of the rejection of the claims above. As to an analysis for the combination of the elements from the references Schenck teaches the use of an infrared camera system to better enable surface temperature measurements in hot processes (abstract). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to use the infrared camera system of Schenck as the infrared sensor of Handel in view of Whipple, because Schenck teaches that the camera system provides automatic acquisition, validation, and preprocessing of thermal images from the camera, defines and extracts key features of thermal images, reports, retrieves, and archives data as discussed in the rejection above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Galen H Hauth

/GHH/

09/17/2009

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